

Translation

PATENT COOPERATION TREATY

PCT/DE2003/002013



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P803435/WO/1	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/002013	International filing date ( <i>day/month/year</i> ) 16 June 2003 (16.06.2003)	Priority date ( <i>day/month/year</i> ) 18 June 2002 (18.06.2002)
International Patent Classification (IPC) or national classification and IPC B29C 67/00		
Applicant DAIMLERCHRYSLER AG		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of <u>6</u> sheets, including this cover sheet.  <input checked="" type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).  These annexes consist of a total of <u>1</u> sheets.
3. This report contains indications relating to the following items:  I <input checked="" type="checkbox"/> Basis of the report II <input type="checkbox"/> Priority III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV <input type="checkbox"/> Lack of unity of invention V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement VI <input type="checkbox"/> Certain documents cited VII <input type="checkbox"/> Certain defects in the international application VIII <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 16 December 2003 (16.12.2003)	Date of completion of this report 09 June 2004 (09.06.2004)
Name and mailing address of the IPEA/EP  Facsimile No.	Authorized officer  Telephone No.

## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/DE2003/002013

## I. Basis of the report

## 1. With regard to the elements of the international application:\*

- ☐ the international application as originally filed
- ☒ the description:  
pages 1-11, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☒ the claims:  
pages 3-6, as originally filed  
pages \_\_\_\_\_, as amended (together with any statement under Article 19  
pages \_\_\_\_\_, filed with the demand  
pages 1-2, filed with the letter of 18 May 2004 (18.05.2004)
- ☒ the drawings:  
pages 1/1, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_
- ☐ the sequence listing part of the description:  
pages \_\_\_\_\_, as originally filed  
pages \_\_\_\_\_, filed with the demand  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_

## 2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language \_\_\_\_\_ which is:

- ☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

## 3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

- ☐ the description, pages \_\_\_\_\_
- ☐ the claims, Nos. \_\_\_\_\_
- ☐ the drawings, sheets/fig \_\_\_\_\_

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).\*\*

\* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rule 70.16 and 70.17).

\*\* Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International Application No.

PCT/DE 03/02013

## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-6	YES
	Claims		NO
Inventive step (IS)	Claims	1-6	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-6	YES
	Claims		NO

### 2. Citations and explanations

1. This report makes reference to the following documents:

D1: EP-A-0 897 745 (MIKUNI KOGYO KK; MATSUSHITA MITSUHIRO (JP)) 24 February 1999 (1999-02-24)  
D2: US-A-5 902 441 (BREDT JAMES F ET AL) 11 May 1999 (1999-05-11).

- 2.1 D1 discloses a particle "suitable for" producing a three-dimensional article by means of a method involving the build-up of layers (see figures 5 and 6 and claims 79 and 80), having:

- a core made of at least one first material (see claim 1),
- a first coating of the core with a second material (see claim 1) that is polar (see paragraphs [0040] to [0044]),
- a second coating on the first coating (see claims 28 and 78, figure 4 and paragraph [0104]),

from which the subject matter of claim 1 differs in that:

- the thickness of the first coating corresponds to 0.1 to 10% of the average particle radius, and

- the second coating is made of a surfactant the thickness of which corresponds to a monolayer of the surfactant.

Therefore, the subject matter of claim 1 is novel (PCT Article 33(2)).

2.2 Consequently, the problem to be solved by the present invention is that the components produced have an uneven surface.

2.3 None of the cited documents discloses or renders obvious the above-mentioned solution, namely the use of a particle in which

- the thickness of the first coating corresponds to 0.1 to 10% of the average particle radius, and
- the second coating is made of a surfactant the thickness of which corresponds to a monolayer of the surfactant.

Therefore, the subject matter of claim 1 is inventive (PCT Article 33(3)).

2.4 Claim 2 is dependent on claim 1 and therefore likewise meets the PCT requirements for novelty and inventive step.

3.1 D2 discloses a method for producing a three-dimensional article, involving the following steps:

- applying a layer of particles to a target surface (see column 5, lines 13-29),
- printing on a selected portion of the layer that corresponds to a cross-section of the article with a liquid in which at least some of the particles are soluble such that the particles bond in the selected portion (see

column 6, lines 24-43),

- repeating the application and printing steps for a plurality of layers such that the bonded portions of the adjoining layers bond together to form the article (see column 6, line 67 to column 7, line 18),

from which the subject matter of claim 4 differs in that particles are used to the outer surface of which a surfactant has been applied.

Therefore, the subject matter of claim 4 is novel (PCT Article 33(2)).

- 3.2 Therefore, the problem to be solved by the present invention is that the components produced have an uneven surface.

- 3.3 None of the cited documents discloses or renders obvious the above-mentioned solution, namely the use of particles to the outer surface of which a surfactant has been applied.

Therefore, the subject matter of claim 4 is inventive (PCT Article 33(3)).

- 3.4 Claim 5 is dependent on claim 4 and therefore likewise meets the PCT requirements for novelty and inventive step.

- 4.1 D2 also discloses a method for producing a three-dimensional article, involving the following steps:

- applying a layer of particles to a target surface,
- irradiating a selected portion of the layer that corresponds to a cross-section of the article by means of an energy beam such that

- the particles in the selected portion bond, repeating the application and irradiation steps for a plurality of layers such that the bonded portions of the adjoining layers bond together to form the article (see column 1, line 51 to column 2, line 4),  
from which the subject matter of claim 4 differs in that particles are used to the outer surface of which a surfactant has been applied.  
Therefore, the subject matter of claim 4 is novel (PCT Article 33(2)).

4.2 Therefore, the problem to be solved by the present invention is that the components produced have an uneven surface.

4.3 The subject matter of claim 3 is regarded as inventive (PCT Article 33(3)) for the same reason as in point 3.3.

5. The subject matter of claim 6 is regarded as novel and inventive (PCT Article 33(2) and (3)).

6. The subject matter of claims 1-6 is industrially applicable (PCT Article 33(4)).